ETAAC Group Sense Regarding Individual Thinking Per Draft Recommendation, for discussion at the November 29, 2007 ETAAC meeting

ETAAC members were requested to participate in an on-line poll to develop a group sense regarding the 70 various draft recommendations contained in the 11-15-07 discussion draft ETAAC report. This information is intended to serve as a starting place for discussion by the full Committee at its meeting on November 29. For each draft recommendation, members were asked the following:

- "Do you support the recommendation?" Possible responses were:
  - "Include in report"
  - "Include if modified (explain below)"
  - "Don't know or incomplete"
  - "Don't include in report"
  - "No opinion"
  - no answer
- "Include in top 8 recommendations?" Possible responses were:
  - "Yes"
  - "No"
  - no answer

A text box was included for freeform comments and explanation.

As of the end of November 26, 2007, 17 members had provided responses to at least some of the recommendations.

In brief summary:

- Each of the 70 draft recommendations received a majority response supporting inclusion in the report, though there was sentiment for certain recommendations to be modified
- Six of the recommendations received majority support for inclusion in the Committee's "top 8" recommendations of the report:
  - "A - Create a California Carbon Trust" (15 yes, 2 no)
  - "B - Promote Clean Energy Innovation and Commercialization" (11 yes, 4 no, 2 no answer)
  - "A - Carbon Credit and Valuation for Early Action" (9 yes, 7 no)
  - "G - Energy Storage as an Enabling Technology" (8 yes, 7 no, 1 no answer)
  - "J - Carbon Capture and Sequestering Strategy" (9 yes, 5 no, 2 no answer)
- One recommendation received a tie
  - C - Competitive Renewable Energy Zones (8 yes, 8 no)

Summary group sense results and Committee members' written comments, where provided, are included on the following pages.

For questions or comments, please contact Steve Church at schurch@arb.ca.gov

Summary of Group Sense Poll, as of Nov 26 2007

Document	Name	Do you support including in final report?	Include in top 8 recommendations?	Suggested changes and feedback for the author
A - Create a California Carbon Trust	TOTAL (17)	11: Include in report 5: Include if modified (explain below) 1: No answer	15: Yes 2: No	13
B - Promote Clean Energy Innovation and Commercialization	TOTAL (17)	13: Include in report 4: Include if modified (explain below)	11: Yes 4: No 2: No answer	11
A - Leveraging AB 32 to Spur California Job Creation and Manufacturing	TOTAL (16)	14: Include in report 1: Include if modified (explain below) 1: No opinion	9: No 6: Yes 1: No answer	9
B - Clean Technology Workforce Training Program	TOTAL (16)	13: Include in report 2: Include if modified (explain below) 1: No opinion	12: No 2: Yes 2: No answer	8
C - Fee and Tax Shifting (Feebates)	TOTAL (16)	12: Include in report 2: Include if modified (explain below) 1: Don't include in report 1: No answer	8: No 7: Yes 1: No answer	8
D - Municipal Assessment Districts	TOTAL (16)	15: Include in report 1: No opinion	12: No 3: Yes 1: No answer	4
A - Telecommuting	TOTAL (16)	12: Include in report 3: Don't know or incomplete 1: Include if modified (explain below)	15: No 1: No answer	6
B - Pay-As-You-Drive Insurance	TOTAL (16)	10: Include in report 4: Don't know or incomplete	15: No 1: No answer	7

		1: Don't include in report 1: Include if modified (explain below)		
C - Car Sharing	TOTAL (16)	9: Include in report 3: Don't know or incomplete 3: Include if modified (explain below) 1: Don't include in report	14: No 1: Yes 1: No answer	5
D - Ridesharing (or Carpooling)	TOTAL (16)	10: Include in report 2: Don't know or incomplete 2: Include if modified (explain below) 1: Don't include in report 1: No opinion	15: No 1: No answer	5
E - Park-and-Ride Facilities	TOTAL (16)	10: Include in report 2: Don't know or incomplete 2: Include if modified (explain below) 1: Don't include in report 1: No opinion	15: No 1: No answer	5
F - Parking Cash Out	TOTAL (16)	9: Include in report 3: Don't know or incomplete 2: Don't include in report 1: Include if modified (explain below) 1: No opinion	15: No 1: No answer	6
G - Smart Cards	TOTAL (15)	11: Include in report 2: Don't know or incomplete 1: Don't include in report 1: Include if modified (explain below)	14: No 1: No answer	4

H - Low-Speed Modes	TOTAL (16)	10: Include in report 4: Don't know or incomplete 1: Don't include in report 1: Include if modified (explain below)	15: No 1: No answer	6
I - Road Pricing Policies	TOTAL (15)	11: Include in report 3: Don't know or incomplete 1: Include if modified (explain below)	12: No 3: Yes	6
J - Traffic Signal Control	TOTAL (15)	10: Include in report 2: Don't know or incomplete 2: Don't include in report 1: Include if modified (explain below)	14: No 1: No answer	5
K - Ramp Metering	TOTAL (15)	9: Include in report 3: Don't know or incomplete 2: Don't include in report 1: Include if modified (explain below)	14: No 1: No answer	4
L - Automated Speed Enforcement	TOTAL (16)	9: Include in report 3: Don't know or incomplete 3: Don't include in report 1: Include if modified (explain below)	15: No 1: No answer	6
M - Incident Management	TOTAL (15)	9: Include in report 3: Don't know or incomplete 1: Don't include in report 1: Include if modified (explain below) 1: No opinion	13: No 1: Yes 1: No answer	5

N - Electronic Toll Collection	TOTAL (16)	11: Include in report 2: Don't know or incomplete 1: Don't include in report 1: Include if modified (explain below) 1: No opinion	15: No 1: No answer	5
O - Traveler Information	TOTAL (16)	10: Include in report 2: Don't know or incomplete 1: Don't include in report 1: Include if modified (explain below) 1: No opinion 1: No answer	15: No 1: No answer	5
P - Bus Rapid Transit	TOTAL (15)	11: Include in report 3: Include if modified (explain below) 1: Don't know or incomplete	15: No	5
Q - Weigh-in-Motion Technologies	TOTAL (15)	8: Include in report 2: Don't know or incomplete 2: Include if modified (explain below) 2: No opinion 1: Don't include in report	13: No 1: Yes 1: No answer	5
R - Personal Rapid Transit	TOTAL (15)	7: Include in report 3: Don't know or incomplete 2: Don't include in report 2: Include if modified (explain below) 1: No opinion	13: No 2: No answer	7
S - Smart Growth and Transit Villages	TOTAL (16)	15: Include in report 1: Don't know or incomplete	11: No 5: Yes	5
T - Improved Transportation	TOTAL	11: Include in	15: No	4

Impact Analysis in Planning	(16)	report 2: No opinion 1: Don't know or incomplete 1: Include if modified (explain below) 1: No answer	1: Yes	
U - Improved Transportation Planning	TOTAL (16)	10: Include in report 3: Include if modified (explain below) 2: No opinion 1: Don't know or incomplete	11: No 4: Yes 1: No answer	5
V - Electric Freight Rail	TOTAL (16)	12: Include in report 3: Don't know or incomplete 1: Include if modified (explain below)	14: No 1: Yes 1: No answer	3
W - Further New Light Duty Vehicle Technology Improvements	TOTAL (16)	10: Include in report 2: Don't know or incomplete 2: Don't include in report 1: Include if modified (explain below) 1: No answer	13: No 3: Yes	5
X - Greenhouse Gases and Air Quality Incentive Funds	TOTAL (16)	10: Include in report 2: Don't know or incomplete 2: Don't include in report 2: Include if modified (explain below)	13: No 2: Yes 1: No answer	6
Y - Low GHG Fleet Standards and Procurement Policies	TOTAL (16)	11: Include in report 3: Don't know or incomplete 1: Don't include in report 1: Include if modified (explain below)	14: No 1: Yes 1: No answer	6
Z - Create Markets for Green Fuels	TOTAL (16)	14: Include in report	12: No 4: Yes	3

		1: Include if modified (explain below) 1: No opinion		
Regular Reporting of Progress Mandate on All State Agencies	TOTAL (16)	11: Include in report 3: Include if modified (explain below) 1: Don't know or incomplete 1: No opinion	11: No 4: Yes 1: No answer	6
Improved Analytical Basis for Planning	TOTAL (16)	11: Include in report 3: Include if modified (explain below) 1: Don't include in report 1: No answer	11: No 4: Yes 1: No answer	5
Adaptation to Climate Change	TOTAL (15)	9: Include in report 4: Include if modified (explain below) 1: Don't include in report 1: No opinion	12: No 3: Yes	6
One Stop Shop for GHG Information	TOTAL (16)	9: Include in report 3: Include if modified (explain below) 2: Don't include in report 2: No opinion	13: No 2: Yes 1: No answer	5
A - On-Bill Financing for Small Business Energy Efficiency Projects	TOTAL (16)	14: Include in report 1: Include if modified (explain below) 1: No opinion	13: No 3: Yes	5
C - "Clean-Tech" Tax Incentives	TOTAL (16)	14: Include in report 1: Don't know or incomplete 1: No opinion	14: No 2: Yes	4
D - Industry/Government Partnerships to Reduce Industrial Energy Intensity	TOTAL (16)	15: Include in report 1: No opinion	13: No 3: Yes	1
E - A Revolving Fund for Technology Demonstration	TOTAL (16)	11: Include in report	11: No 5: Yes	7

Projects		4: Include if modified (explain below) 1: Don't include in report		
G - Flexible Working Hours	TOTAL (16)	10: Include in report 3: Don't include in report 1: Don't know or incomplete 1: Include if modified (explain below) 1: No opinion	14: No 1: Yes 1: No answer	5
H - Rebates for Load Reduction	TOTAL (16)	14: Include in report 1: Don't know or incomplete 1: Include if modified (explain below)	16: No	2
I - Improve Policies for Combined Heat and Power	TOTAL (16)	13: Include in report 1: Don't know or incomplete 1: Don't include in report 1: Include if modified (explain below)	12: No 4: Yes	3
J - Waste Reduction at the Source	TOTAL (16)	15: Include in report 1: Don't include in report	15: No 1: Yes	1
K - Waste Recycling	TOTAL (16)	14: Include in report 1: Don't include in report 1: No opinion	16: No	1
L - Waste Conversion Evaluation	TOTAL (16)	14: Include in report 1: Include if modified (explain below) 1: No opinion	16: No	1
M - Landfills Regulation and Technologies	TOTAL (16)	15: Include in report 1: Don't know or incomplete	16: No	0
N - Building Efficiency Programs and Incentives	TOTAL (16)	14: Include in report	11: No 5: Yes	2

		1: Include if modified (explain below) 1: No opinion		
O - Combustion Devices: Energy Efficiency	TOTAL (16)	15: Include in report 1: No opinion	13: No 2: Yes 1: No answer	0
A - Carbon Credit and Valuation for Early Action	TOTAL (16)	15: Include in report 1: Include if modified (explain below)	9: Yes 7: No	5
B - Unifying Standards for Climate-Related Programs	TOTAL (16)	13: Include in report 1: Don't know or incomplete 1: Don't include in report 1: Include if modified (explain below)	13: No 2: Yes 1: No answer	4
C - Competitive Renewable Energy Zones	TOTAL (16)	14: Include in report 1: Include if modified (explain below) 1: No opinion	8: No 8: Yes	4
D - Support Critical Innovations for Future GHG Abatement	TOTAL (16)	12: Include in report 3: Include if modified (explain below) 1: No answer	14: No 2: No answer	6
F - Renewable Energy	TOTAL (16)	14: Include in report 1: Don't know or incomplete 1: Include if modified (explain below)	15: No 1: Yes	3
E - Aggressive Energy Efficiency Program Implementation with LEDs	TOTAL (16)	14: Include in report 1: Don't know or incomplete 1: Include if modified (explain below)	14: No 2: Yes	3
G - Energy Storage as an Enabling Technology	TOTAL (16)	15: Include in report 1: Include if modified (explain below)	8: Yes 7: No 1: No answer	4

H - Plug-In Electric Vehicle as Storage	TOTAL (16)	13: Include in report 2: Include if modified (explain below) 1: No answer	11: No 5: Yes	3
I - Smart Grid as Enabling Technology	TOTAL (16)	13: Include in report 2: Include if modified (explain below) 1: No answer	13: No 2: Yes 1: No answer	4
J - Carbon Capture and Sequestering Strategy	TOTAL (16)	15: Include in report 1: No answer	9: Yes 5: No 2: No answer	4
A - Manure to Energy Facilities	TOTAL (15)	13: Include in report 1: Include if modified (explain below) 1: No opinion	12: No 3: Yes	3
B - Enteric Fermentation	TOTAL (15)	13: Include in report 1: Don't know or incomplete 1: No opinion	15: No	0
C - Agricultural Biomass Utilization	TOTAL (15)	14: Include in report 1: Include if modified (explain below)	13: No 2: Yes	2
D - Dedicated Bio-Fuels Crops	TOTAL (15)	15: Include in report	13: No 2: Yes	1
E - Soil Carbon and Sequestration	TOTAL (15)	14: Include in report 1: Include if modified (explain below)	14: No 1: Yes	2
F - Riparian Restoration and Farmscape Sequestration	TOTAL (15)	14: Include in report 1: No opinion	12: No 2: Yes 1: No answer	1
G - Fertilizer Use and Water Management Efficiency	TOTAL (15)	14: Include in report 1: No opinion	14: No 1: Yes	0
A - Link Forest Fuels Management and Biomass Utilization: Green Biofuels Index	TOTAL (15)	11: Include in report 2: Don't know or incomplete 1: Include if modified (explain below)	13: No 2: No answer	2

		1: No opinion		
B - Reforestation of Natural Forest Areas	TOTAL (15)	12: Include in report 2: No opinion 1: Don't know or incomplete	13: No 2: Yes	2
C - Urban Forests for Climate Benefits	TOTAL (15)	14: Include in report 1: No opinion	14: No 1: Yes	1
D - Endorse "California-Grown" Climate Solutions	TOTAL (13)	9: Include in report 2: Don't know or incomplete 1: Include if modified (explain below) 1: No opinion	11: No 1: Yes 1: No answer	2

Comments from Group Sense Poll, as of Nov 26 2007

Document	Suggested changes and feedback for the author
A - Create a California Carbon Trust	We favor grouping some of the recommendations to strengthen them. To this end, we believe we could group certain other key recommendations with the carbon trust. Specifically, the proposal discusses how to fund the trust and only lightly touches on what the trust might do with the fees. We suggest as a minimum grouping the 'support commercialization' recommendation (see Finance Sector) and the recommendation to create a revolving fund for demonstration projects (see Manufacturing Sector).
	Strongly recommend the establishment of a Carbon Trust. Air pollution control in California relies now on financial incentives to further achieve Clean air as much as regulation. This approach works and should be included.
	Great recommendation!
	I think I am going to have a hard time going thru the report and saying which of the 70 rec'ds should be highlighted. There is much overlap in each of the sectors that fit under broader themes that might be lost if I pick and choose. For instance nearly every sector gives examples of clean energy innovation that needs to happen. We need to pick 8 general overarching themes, pull rec'ds from the sectors that fit into those themes and then leave the sector sections for more specific info on the ideas or any additional ideas that do not fit into the 8 themes. That being said I will go thru the report rec'd by rec'd and provide the comments I wrote while reading. There are no problems in this problem statement. Best to be realistic and identify some challenges. Define HVAC, I believe an acronym should be spelled out the first time it is used, even if it seems common. Define Dutch auction. Typo on pg 14, 3rd paragraph....should be projects. Pg 14, intro paragraph before 3 bullets. Instead of saying these 3 mechanisms ensure that carbon reductions occur w/in CA, it needs to be broadened. I do not agree that unless reductions occur only in CA they are not worthy but I believe the way this sentence is constructed supports that concept. while it is good to have CA reductions, the trust should not be predicated on this being the best and only way.
	9) Page 13, top. The idea of allocating Carbon Trust funds to achieve other public policy goals such as environmental justice is an excellent one so long as there is no cost to doing so. If there is a cost, then the tradeoffs should be carefully quantified and explicitly discussed. If ETAAC recommends that other public policy objectives be included when making climate policy, a balanced and reciprocal approach that also requires that climate policy be included in all other public policy decisions is needed. 13) Page 14, middle. ?To ensure the integrity of carbon reductions, the Trust must limit funding to project [sic] for which clear measurement and verification standards exist.? We am not sure about this view. It might be completely appropriate for the Trust to fund projects that have uncertain or risky estimates of GHG emission reductions and to pay a lower price because they are uncertain. And if sold to a regulated entity, they should be treated as less reliable for compliance purposes. The absolute standard set in the existing text seems too strict and if it is retained, it would be necessary, in our view, to explain where incentives to improve measurement and monitoring would be found in California?s overall climate policy, and how technologies or projects with uncertain emission reductions could have a chance to be funded.

	Try to clarify the various roles and perhaps give examples for each.
	I agree with your comments about the trust that the basic assumption is that it will purchase carbon to retire it, and that a secondary purpose is market stabilization. Having a large block of credits available, I am afraid, would lead to pressure to use them. The Trust should be like the Strategic Petroleum Reserve - available for exigent circumstances only.
	See comments submitted on latest draft.
	Very interesting and good write-up. But, it is not completely clear how the Carbon Trust would function along side a market for trading carbon within sectors covered by a cap. Also, this proposal depends on there being a cap and trade system of some kind, which is not a foregone conclusion. Setting up a new entity to manage this and evaluate proposals would be a large undertaking.
	On Page 15 under "Funding Sources for the Carbon Trust" I think it is important to point out that if there isn't an auction for allowances, businesses may still be willing to fund the entity if it is setup as a public private partnership. In other words, businesses may be more compelled to put more funding toward the Carbon Trust if it is truly created as a public/private partnership as opposed to just a pseudogovernmental entity that is funded via auction fees.
	Feedback: I have concerns about blending auction revenues with other sources of money - use of auction revenues would be limited to Sinclair, while other revenues could be more flexible. A solution could be to build the trust for other-than auction revenues. The governance should be different for both types of expenditures, also. Public funds need government oversight, while private funds could be privately managed. I also wonder if it's appropriate to have a government agency involved in the market with the intent to affect the price of credits. I need to know more about how the governance and rules for the trust would protect free and open operation of the market. Finally, if vast monies from auction revenues are needed to make the trust operate as intended, I have a problem because I don't support an auction of allowances. Possible Modification: Split into two recommendations, one for a trust that does include potential auction revenues or other public monies, and one that doesn't. This would allow commenters to give feedback on both ideas.
	good writeup - key idea
	Add: 1) Regarding project incentives: The state needs to address potential overlap, double counting, impact on program net-to-gross ratio and calculation of program cost effectiveness with energy efficiency programs. 2) Regarding university research: This could be a possible funding source for the proposed California Institute for Climate Solutions
	There still seems to be some give and take on the price stabilization role of the carbon trust. I think it can be done, but more specifics on how may be required to reach consensus.
	be clear that the $ are not for commercialization, but the stages up to that point. Include in top 8 if an independent group has clear oversight. If this is another govt agency, then, don't support it as a recommendation or including in the report.
A - Create a California Carbon Trust	15
B - Promote Clean Energy	Would favor grouping this with the recommendation to create a revolving

Innovation and Commercialization	fund for demonstration projects. Further, the specific projects/actions listed in this recommendation could be used as examples of how to allocate or spend the fees generated by the carbon trust.
	rtkdty
	In this section....GHG Reduction Potential and anytime there is not a calculation...instead of saying "cannot quantify".... why not something like "Will vary depending on specific effort"
	The powerful central concepts of economics are not reflected on sufficiently well and thus the report ends up being somewhat too-technology focused. A more effective report would contain a better balance of the two. There seem to be many ideas in the report that are not actually sector-specific and therefore may be more general and more important. The crucial role that will be played by greenhouse gas (GHG) regulations in placing an effective price on GHG emissions (through a combination of regulatory and incentive-based approaches) in stimulating innovation is not acknowledged in the report. This suggests some minor restructuring. One good place to start is by changing the title of the study: Advancing innovation in California to fight global warming and strengthen the economy Perhaps the most important economic issue for ETAAC is the need for innovation-inducing policies in addition to policies that will reduce GHG emissions. The general reason is that the real world economy has many market failures so a ?first best? solution that assumes perfect markets, perfect information, no transaction costs, no other externalities etc. is inadequate by itself. Identifying these market failures and the ways to overcome them would be an important addition to the report. Key market failures include research and development spillovers, learning by doing spillovers, risk aversion, differences between private and social discount rates (e.g. myopia), and market power. A discussion of these issues should be added to the report. Context and rationale: The ETAAC report would be much stronger if the context for the sort of innovation-stimulating and economy-enhancing steps recommended in the report was provided and a strong argument for the need for such steps were made. Part of this idea is to explain why the regulatory framework that emerges from the implementation of AB32 is unlikely to be socially optimal. That is, why are simple policy prescriptions such as ?getting the price right? or ?capping all emissions? not sufficient? There are some pieces of this in the existing text, such on near the bottom of page 12 where the principal/agent problem in rental property is described. Also, there is a lot of discussion in the report about a cap, uncapped sectors, auction revenues, etc. that imply some sort of context. Rather than vague implications, a clear discussion of what some of the main features and options for the regulatory context of our recommendations would be helpful. This need not be a long section, but seems critical to me.
	Incorporate the language that is found in the transportation sector preamble (including the fuel cell partnership description), and also reference AB 118, which could help substantially with commercialiation of transportation technologies.
	Suggest making a funding priority of the Carbon Trust, added to the R&D component.
	Crucial to include this kind of policy. I think it is clear that the GHG reduction potential from this kind of broad activity is very large. I think some technologies that could lead to reductions beyond 2020 already do exist. There is also the need to encourage new and breakthrough technologoes. The overall point about carbon emissions associate with

	shipping clean technologies to CA is right, but this is not a great example. For a 1 MW FC system, this might save 0.2 kgCO2/kWh ~ 0.4 lb/kWh generated (assuming you increase the efficiency of using NG -> kWh). If the 1 MW system runs 1 day (24 h), this generates 24,000 kWh and saves 10,000 lb of CO2. Run the FC for 13 days and you?ve paid back the carbon. If the FC lasts 10 years, this is not a major factor in the lifecycle CO2. Creating a new agency to oversee and coordinate efforts to bring about clean energy innovation would be a large undertaking. Can this be done within the CEC or CARB? How would this agency keep track of everything, and coordinate it? Would it be another funding source for such work?
	There are many recommendations within this single section. It would be helpful to identify a list of the programs that should be reviewed. I'm not sure whether there is a legitimate reason for different avoided cost calculations for different programs. I'm not sure we need a new entity for coordination . Is this a good function for the CAT? I strongly support improving demonstration project funding.
	i. Add "Forestry" to the highlight list of "Clean Tech" categories. It merits just as much attention as Agriculture in its potential (and ongoing)wood-product research on 1) ligno-cellulosic fuels, resins 2) Nanotech research for stronger building materials from wood carbon fibers ii. Demonstration Finance section pg 2-11: Describe "valley of death" problem a bit more clearly in the intro discussion. "First megawatt" is noted, but reader may not understand the significance
	This can be merged with recommendation A, Create a California Carbon Trust
	A tad confusing, because the first of the central recommendations is to create the Calif. carbon trust, which was the last recommendaiton. But other ones are quite good, so it's in my top 8.
	Not in favor of new agency, but other options are mentioned as well. Also keep the focus on the pre-commercial phase of technology development.
B - Promote Clean Energy Innovation and Commercialization	12
A - Leveraging AB 32 to Spur California Job Creation and Manufacturing	We believe that several of the recommendations relate to government procurement and it may be useful to group these recommendations or otherwise reference this theme. Recommendations which impact government procurement could include in addition to this recommendation: clean vehicle fleet, PHEV stimulus, and the recommendation to promote innovation and commercialization.
	22) Page 27, top. Training is needed. 1,000 people trained per year seems to small for state with a population of a 37 million, perhaps 10,000 might be a better target.
	Good idea so long as it is clear that California does not go too far in trying to keep manufacturing in the state. Also, stick to the goals of AB32.
	Include the language from middle of drat page 17 to middle of page 18 in this section, not the one on commercialization.
	Again, suggest including in the Carbon Trust.
	This recommendation is about CA jobs creation and economic development recommendation at least as much as GHG reduction.

	Buy California is important overarching concept - Should be in top 8, but not sure what my count is yet! Forest sector also has a Buy California write-up. I can amend it to focus on wood products or just combine here. Take a look for additional phrases to add in. I will add previously deleted material back into the Buy Calif piece in the Forest section (e.g. re Calif's dependence on imported wood products and competitive disadvantage of Calif industry due to higher regulatory standards)
	Text includes language that this program can be funded using PGC funds. This does not appear to be an appropriate use of PGC funds, thus the reference to use PGC funds should be deleted.
	Fine idea, just not a game changer.
	what happens if we are not done in five years?
A - Leveraging AB 32 to Spur California Job Creation and Manufacturing	10
B - Clean Technology Workforce Training Program	
	Need to think more about how to fund this
	22) Page 27, top. Even more training efforts than are indicated in the report are needed. 1,000 people trained per year seems to small for state with a population of a 37 million, perhaps 10,000 might be a better target.
	Make clear the connection to AB32's primary goal of reducing GHG emissions.
	This is helpful and we support. But the shortage of skilled workforce is not the major reason most clean tech companies will leave CA.
	Build into Carbon Trust (which should help ameliorate transition issues).
	Do we have data on how much it costs to train workers in green tech industries? An example would be helpful.
	This is a vitally important policy initiative for creating and supporting a low carbon economy with highly complex (and expensive) systems and technologies: industry modernization, new infrastructure, waste disposal, high tech maintenance and repair, etc. The need is great - Career and Technical Education has suffered huge declines in the last decades. I would add an additional recommendation that we require Career and Technical Education be included in high school graduation requirements to better prepare students for this work.
	key piece - but probably not top 8
	Please note that this work is also included in the scope of the proposed California Institute for Climate Solutions and could thus be leveraged there.
B - Clean Technology Workforce Training Program	9
C - Fee and Tax Shifting (Feebates)	The recommendation in the energy sector to create a market stimulus could be related or grouped with this recommendation.
	The powerful central concepts of economics are not reflected on sufficiently well and thus the report ends up being somewhat too-technology focused. A more effective report would contain a better balance of the two. There seem to be many ideas in the report that are not actually sector-specific and therefore may be more general and more important. The crucial role that will be played by greenhouse gas (GHG) regulations in placing an effective price

	on GHG emissions (through a combination of regulatory and incentive-based approaches such as fees or tax shifting) in stimulating innovation is not acknowledged in the report. This suggests some minor restructuring. One good place to start is by changing the title of the study: Advancing innovation in California to fight global warming and strengthen the economy Perhaps the most important economic issue for ETAAC is the need for innovation-inducing policies in addition to policies that will reduce GHG emissions. The general reason is that the real world economy has many market failures so a ?first best? solution that assumes perfect markets, perfect information, no transaction costs, no other externalities etc. is inadequate by itself. Identifying these market failures and the ways to overcome them would be an important addition to the report. Key market failures include research and development spillovers, learning by doing spillovers, risk aversion, differences between private and social discount rates (e.g. myopia), and market power. A discussion of these issues should be added to the report.
	any obvious non-transportation examples?
	I would like to see this beefed up. It is innovative and effective.
	Good idea
	I think it will be important to include the fact that the speaker's AB 118, which was signed this year already increases specific vehicle registration fees to pay for clean fuel research. Thus, it will be important for the Legislature and ARB to look at the various pools of funding that have been created by extra surcharges before developing new ones. Also, certain proposals such as AB 493 (Ruskin) may proactively favor those that purchase clean vehicles, but may also hurt those that cannot afford to purchase a new clean vehicle (low-income).
	Reducing taxes on products impacts the general fund, and/or raises taxes on others who may not be in a position to avoid the impact. A well-designed market for carbon is a more efficient way to send price signals to encourage low carbon purchases.
	needs further explanation
	The "Ease of Implementation - Relatively straightforward" annotation is probably not accurate. Any aspect requiring action by legislature - which most tax and fee proposals would entail (either through legislation, the budget or agency authorization)- face a minefield of political polemics and bargaining. Even though couched as "revenue neutral" and appearing benign and beneficial, any legislative proposals including taxes and fees, and imposing higher costs on some sectors (here, the high emitters) will generate huge political battle "just because" - irrespective of merits. Suggest something more realistic, like: Ease of Implementation: Tax and fee restructuring will require legislative action.
C - Fee and Tax Shifting (Feebates)	9
D - Municipal Assessment Districts	
	This is a very creative, thoughtful mechanism that has promise and that we should support, but it is not clear to me from the description what the STATE role is in supporting these districts. Is there some action that the state should take to promote these districts? We could also consider combining

	this into the discussion of on-bill financing, since both proposals seem targetting at the same problem -- making investments in energy efficiency and new technologies more affordable.
	Good idea. Could break deadlock on bringing in capital intensive low C technologies that are make economic sense on a lifecycle basis now.
	This is a good idea, but may need to be expanded into broader entities.
	OK to include, but must bigger treatment is needed. Biggest Gap in whole report: Inadequate discussion of influence of LAND USE POLICIES/Smart Growth on energy use, transportation, building density, construction standards, water use, wildfire hazard, impacts on critical habitats etc etc. A start is provided in Transportation sector re: smart growth - but much more inclusive treatment is needed Need bigger discussion on economic incentives needed to change land use patterns via tax policies, infill incentives, requirements for local/regional consideration of GHG/GCC implications of land use decisions
D - Municipal Assessment Districts	4
A - Telecommuting	
	We need to define the problem and solutions. Part of it needs to be to put in place the infrastructure (aggressively roll out broadband) needed to support this. Incorporate flexible working hour piece from industrial section.
	The Transportation sector write-up includes a list of 25 possible actions (A-Y) under section IV "Reduce Passenger and Freight Vehicle Miles". While these are all worthy of consideration, some clearly have much more potential than others to reduce GHG. The report needs to give the reader a sense of perspective for whatmight be achieved with these different actions. Perhaps they could be grouped or put into summary tables, and much of the material moved to a detailed appendix?
	It is the right thisng to do in may contexts. However, I don't think we do a good job explaining how it is a technological adavncement.
	Include all these in the report as options, but from my perspective none but LAND USE should individually pop to the top 8
	Please note that description in the draft report is incomplete.
	The section on Passenger & Freight sect IV, A-V: the vast majority of ideas here a already things people are doing.I would move to an appendix and not make recommendations.The areas that are not well in hand in my view are the urban & transport planning. We should beef those up and make one meaty recommendation.
A - Telecommuting	6
B - Pay-As-You-Drive Insurance	
	There seems like a lot of potential here, but auto insurance is already partly based on mileage, I believe.
	See comments under A above
	I don't think saving insurance premiums is a major motivator in reducing miles travelled.
	same comment

	Please note that description in the draft report is incomplete.
	Great idea; I'm going to propose it to GEICO (part of Berkshire Hathaway).
	same as previous
B - Pay-As-You-Drive Insurance	7
C - Car Sharing	
	Not sure of barriers or solution, except that a much higher percentage of state transportation funds should be made available to communities that adopt smart growth and this should be required to be considered as part of a comprehensive smart growth strategy.
	See comments under A above
	This may have some inmpact, but I didn't get a clear idea of what we were recommending.
	Please note that description in the draft report is incomplete.
	same as previous
C - Car Sharing	5
D - Ridesharing (or Carpooling)	
	Same comment at Item 9
	See comments under A above
	Transportation is a Big 8. Aggregate these specific ideas within a broader "transportation" umbrella
	Please note that description in the draft report is incomplete.
	same as previous
D - Ridesharing (or Carpooling)	5
E - Park-and-Ride Facilities	
	Sames as Item 9
	See comments under A above
	same
	Please note that description in the draft report is incomplete.
	same as previous
E - Park-and-Ride Facilities	5
F - Parking Cash Out	
	See comments under A above
	This would be more productive if people cashed out for bus fare, or some other transportation vouched that was tangible.
	same
	Please note that description in the draft report is incomplete.

	Very clever - Wonderful small way to shift incentives.
	same as previous
F - Parking Cash Out	6
G - Smart Cards	
	CalTrans is already using FastTrak. We should provide them a pat on the back and urge the expansion of the program, with more dedicated fast track lanes and imposition of higher tolls on those who do not adopt. Adoption will faciltate congestion pricing, etc.
	same
	Please note that description in the draft report is incomplete.
	same as previous
G - Smart Cards	4
H - Low-Speed Modes	
	We should also suggest that new buildings should have facilities to accommodate bikers (showers).
	See comments under A above
	I would support building infrastructure, for this alternative, where appropriate. It is not clear what we are specifically recommending.
	same
	Please note that description in the draft report is incomplete.
	same as previous
H - Low-Speed Modes	6
I - Road Pricing Policies	
	Same as Item 9
	See comments under A above
	Hmmmm....not sure on this.
	same
	One of the best ideas of all in this sector. I would make it a top 8 if I had a sense of what the GHG reductions were. Problem: By easing congestion, would it lead to more driving?
	same as previous
I - Road Pricing Policies	6
J - Traffic Signal Control	
	Same comment as Item 9
	See comments under A above
	same
	Please note that description in the draft report is incomplete.
	same as previous

J - Traffic Signal Control	5
K - Ramp Metering	
	the description itself says that the net result is unclear.
	See comments under A above
	same
	Please note that description in the draft report is incomplete.
	same as previous
K - Ramp Metering	5
L - Automated Speed Enforcement	
	Seems remote from GHG reduction objective
	See comments under A above
	Too Cheneyesque
	same
	Please note that description in the draft report is incomplete.
	same as previous
L - Automated Speed Enforcement	6
M - Incident Management	
	Seems we are getting far away from carbon reduction.
	See comments under A above
	same
	Please note that description in the draft report is incomplete.
	same as previous
M - Incident Management	5
N - Electronic Toll Collection	
	This should be combined with section on smart cards. Same issue.
	See comments under A above
	same
	Please note that description in the draft report is incomplete.
	same as previous
N - Electronic Toll Collection	5
O - Traveler Information	
	unclear on what actual policy recs are
	Should be included in a section on Caltrans strategy to reduce carbon
	See comments under A above
	same
	Please note that description in the draft report is incomplete.
	same as previous

O - Traveler Information	6
P - Bus Rapid Transit	
	Same comments as in Items 9 and 21.
	See comments under A above
	same
	Please note that description in the draft report is incomplete.
	same as previous
P - Bus Rapid Transit	5
Q - Weigh-in-Motion Technologies	
	Same comments as Item 21
	See comments under A above
	same
	Please note that description in the draft report is incomplete.
	same as previous
Q - Weigh-in-Motion Technologies	5
R - Personal Rapid Transit	
	This is the kind of thing that someone could possibly fund in AB 118. But the benefits must be explained in a more compelling fashion.
	See comments under A above
	I don't know how realistic this is to achieve significant GHG emission reductions
	same
	Please note that description in the draft report is incomplete.
	This needs more explanation. As it reads now, I would eliminate it from the report, as the idea is not spelled out very well.
	same as previous
R - Personal Rapid Transit	7
S - Smart Growth and Transit Villages	
	Make this a major recommendtion, impose a requirement that cities do it, backed up by use of a large percentage of our transportation funds that collected in urban areas, and require cities to consider options detailed earlier in this section (under Item 9).
	This section is written at a higher level and could stay in the main body of the report
	California's population continues to grow each year. With that is an increased need for housing. I think it is important to highlight that smart growth can also include a more efficient public transportation system that can cut commute time as well as reduce emissions.
	Yes!! -- Beef this up substantially and move to top 8 The whole LAND USE topic merits a broader development. Substantially expand discussion of range of land use incentives, problems, mitigations etc See prior comments

	same as previous
S - Smart Growth and Transit Villages	5
T - Improved Transportation Impact Analysis in Planning	
	Include this analysis in Item 25
	Very general as written. Overlaps with other recommendations
	Combine in a broader LAND USE discussion
	same as previous
T - Improved Transportation Impact Analysis in Planning	4
U - Improved Transportation Planning	
	Same comment as Item 25 / 26. Incorporate into discussion of need for smart growth.
	Very general, too
	The report gives London as an example of a city with congestion pricing. It is also important to note that cities such as London also have a very efficient subway system that fits consumer needs. Although the Bay area does have BART, cities such as LA do not have public transportation options that would give consumers choice. Hence, if such a policy is enacted it is important to give consumers an alternative and ensure that California's public transportation system is up to par.
	Combine with broader land use discussion
	same as previous
U - Improved Transportation Planning	5
V - Electric Freight Rail	
	See comments part A
	LA/LB Harbor is huge environmental problem electric freight rail would be huge positive.
	same as previous
V - Electric Freight Rail	3
W - Further New Light Duty Vehicle Technology Improvements	
	This is a very important section, and I would include it as a top recommendation if we had more than 8. Alan suggested a requirement that we get to something like a zero emission car or all electric drivetrain within 20 or so years. I tend to think that a dramatic recommendation like this would move the debate forward. The specifics here should be inocorporated into the discussion on feebates and funding for innovation and technology rollout contained in finance section.
	This needs to be better integrated with sections V and VI.
	This should done on the federal level.
	Please note that description in the draft report is incomplete.

	same as previous
W - Further New Light Duty Vehicle Technology Improvements	5
X - Greenhouse Gases and Air Quality Incentive Funds	
	Multiple goals and tradeoffs: In various parts of the report, different opinions about the relative priorities for multiple goals are offered, and different views about potential tradeoffs are expressed. This is an important issue that deserves more clear discussion among ETAAC members. Our view is that we must be clear about this and that we should reject choices that compromise the objectives of AB32 ? to fight global warming ? in order to achieve other public policy objectives. At the same time, of course the state should reject choices that would violate other statutes or seriously frustrate other public policy goals. That is, we should recommend that the state seek to create and support opportunities to achieve additional goals beyond steps that will directly or indirectly lower the effects of global warming on the state. (Indirect steps would include efforts to stimulate innovation that will enable cost-effective GHG emission reductions in the future.) But we should recommend against choices that divert resources away from this goal and against GHG control policies or projects that worsen water pollution or other public policy goals. For instance, imagine a competitive grants program with two projects. They both have the same price, but the first lowers GHGs slightly more than the second, while the second yields small air pollution benefits. They differ in no other way. In our view, the first project should be chosen based on a simple rule that AB32 requires greater GHG emission reductions be chosen. (Of course, if the two choices offered the same GHG emission reductions, the second project should be chosen because of the air pollution co-benefit.) Any other rule would begin to require highly subjective judgments about the tradeoffs between GHG emission reductions versus air pollution improvements. Now imagine a third project that is identical to the first two, except that it has even more GHG emission reductions but worsens air pollution. This third project should be rejected. This approach is consistent with the text of AB32, which instructs (in section 38570) that that creases in toxic air contaminants or criteria air pollutants due to a market-based compliance mechanism should be prevented, but that emissions should otherwise only be ?considered?. More generally, section 38592 (b) states that, ?Nothing in this division shall relieve any person, entity, or public agency of compliance with other applicable federal, state, or local laws or regulations, including state air and water quality requirements, and other requirements for protecting public health or the environment.? Of course, the real world is not quite this simple. Government decisions must be guided by political compromise as well as strict rationality. In addition, in some cases there may be GHG-reduction choices that worsen air pollution or otherwise significantly frustrate public policy objectives. (See page 111 on methane digesters for an apparent suggestion that air pollution regulations be eased for methane digesters in order to enable GHG emission reductions.) Therefore, there may be a need for tradeoffs among multiple goals. It would be foolish to pretend that such tradeoffs would not occur ? if ETAAC would like to allow such tradeoffs, it should offer explicit guidance about how to do so. For instance, ETAAC might recommend a minimum cost-effectiveness for co-benefits that would be considered acceptable tradeoffs. If ETAAC recommends that tradeoffs among different public policy objectives be allowed for GHG policy, then it should also recommend a balanced,

	reciprocal policy?for instance, air pollution regulations and decisions must include GHG emission reductions in the decision process, just as GHG policy decisions would have to account for air pollution. Otherwise, an unbalanced and biased set of regulatory decisions would result. And if ETAAC recommends that such tradeoffs be made for air pollution, then all public policy objectives should be includes as well, including but not limited to: water pollution, biodiversity, environmental justice, early childhood nutrition, literacy, smoking cessation, traffic safety, and so forth. And, similarly, policies to achieve these public policy goals should be made with tradeoffs in terms of GHG emission reductions in mind. Otherwise, there will be a bias against climate change goals policy as less important than these other goals, which is not true. It is important to not over-state co-benefits by ignoring the regulatory and economic context of the co-benefits. In particular, pollutants that are controlled with a cap-and-trade system (such as in California?s RELCAIM or the federal Acid Rain programs) emissions are determined by the number of available allowances. If some sources reduce emissions as a co-benefit to a GHG emission reduction, this makes more emission allowances available for other sources. Of course, if the emission allowances associated with the change were also retired, the co-benefit would be retained. However, because emission allowances have monetary values, such an approach would not be free and an implicit, inescapable tradeoff would be made.
	Include discussion of AB 118. We should emphasize the oppportunity (in public health benefits) that GHG reduction gives us to realize reductions in criteria air pollutants.
	Not sure if top 8 - Transportation policies should definitely be in the top 8, but perhaps can aggregate some of these individual breakout pieces into a larger group of incentives for the top 8
	Please note that description in the draft report is incomplete.
	No explanation. We've got enough funds as it is. This is piling on.
	The section is very short on content. Perhaps we can refer to an existing order?
X - Greenhouse Gases and Air Quality Incentive Funds	6
Y - Low GHG Fleet Standards and Procurement Policies	
	This is one of the ways we can drive ultra-low carbon fuels and alternative vehicle technologies. However, the State of CA has already made investments in fleets and this is relatively easy politically. So I am not sure that it would make sense to make this a top 8 recommendation.
	Description seems too vague.
	aggregate
	Please note that description in the draft report is incomplete.
	Needs a bit more explanation - government procurement? Procurement by large companies of fleets? Minimum number in the program? Mandatory or voluntary?
	see previous comment. The next 3 items (w,x,y) could go in appendix.
Y - Low GHG Fleet Standards and Procurement	6

Policies	
Z - Create Markets for Green Fuels	
	The green fuel labelling should be incorporated into the feebate discussion, which is the much more important and effective of these two proposals.
	Perhaps this stands alone as a top 8? or aggregated with like-types?
	we are missing a recommendation on LCFS fuels deployment which should be one of the top 8 (section VI)
Z - Create Markets for Green Fuels	3
Regular Reporting of Progress Mandate on All State Agencies	
	I think all the governance should be collapsed into one recommendation for CAT
	Climate Change Technology Advancement Review: Perhaps it would be useful for ETAAC to continue as an occasional technology review panel to provide updates to the Legislature and Governor. A regular schedule would be best to enable some sort of planning. Perhaps a bi-annual report designed to be available on the first day of each new legislative session might make sense, or a once-every-four year effort that would be due on the Governor?s Inaugural day. This review should not be undertaken with a bias towards accelerating or slowing the state?s progress on climate change policy, but should take a balanced approach. In order to do an adequate job on adaptation, this review will need to cover progress in climate science
	I would combine these four governance themes into one rec, and probably move them to an intro or separate section for cross-cutting recs.
	Improved coordination is important, but the requirement for 6 month reporting seems like a lot of work.
	raises the question of who is monitoring. Maybe State auditor or Liz Hill. Agencies will blow blue smoke.
	"Good Governance" as a general category could be in Top 8 - but it's sort of expected? Various specifics can be listed up front with further discussion in appendix
	This is not the same type of recommendation format. Should be included and it is an important item to highlight....I see the whole governance as one recommendation.
Regular Reporting of Progress Mandate on All State Agencies	7
Improved Analytical Basis for Planning	
	I think all the governance should be collapsed into one recommendation for CAT
	The potential to create a ?carbon market regulator? is a complex, important issue and requires careful consideration and analysis. The members of ETAAC (ourselves included) do not have the necessary expertise to comment authoritatively on this topic and should not make a strong recommendation. Analysis by the public policy and macro-economic experts

	is required before reliable advice on this critical topic can be offered.
	I would combine these four governance themes into one rec, and probably move them to an intro or separate section for cross-cutting recs.
	"Good Governance" as a general category needs to be in Top 8 Various specifics can be listed up front with further discussion in appendix
	We have some concerns regarding whether or not it's necessary to create yet another policy making body.
	see previous
Improved Analytical Basis for Planning	6
Adaptation to Climate Change	
	I think all the governance should be collapsed into one recommendation for CAT
	Research and policies for adaptation will need to be developed by the California Department of Food and Agriculture and California Energy Commission because of the impacts of climate change on agriculture and electricity supply and demand. Acknowledge the need for continued scientific research: In some areas, better understanding of fundamental scientific issues is needed, in adaptation, for instance. It is probably beyond the scope of ETAAC to evaluate this issue in detail, but it is probably important to acknowledge the need for such efforts in order to encourage scientific funding agencies to consider such needs.
	I would combine these four governance themes into one rec, and probably move them to an intro or separate section for cross-cutting recs.
	Adaptation needs to be mentioned somewhere. This is the only place anyone brings the subject up - would be good to expand. Not sure if merits top 8, but definitely needs acknowledgement
	Please note possible connection to the proposed California Institute for Climate Solutions.
	Important idea, but needs more - For example, need better planning for dams if rain and snow patterns change. Also need to prepare for upside - better agricultural opportunities.
	same as previous
Adaptation to Climate Change	7
One Stop Shop for GHG Information	
	I think all the governance should be collapsed into one recommendation for CAT
	I would combine these four governance themes into one rec, and probably move them to an intro or separate section for cross-cutting recs.
	Include in discussion of Leveraging AB 32 to spur job creation and manufacturing.
	Aggregate with other Good Governance general category discussion
	Definitely needs work. The "one stop shop" concept is pretty worn. We could add about 15 other one-stop ideas for many other recommendations.

	same as previous
One Stop Shop for GHG Information	6
A - On-Bill Financing for Small Business Energy Efficiency Projects	
	Change date from 2020 to 2008
	Can this be combined with the municipal assessment district, in a broader discussion of how to incent investments in energy efficiency by residential and small business consumers. If so, I would rank this as an important recommendation that should get some prominence, particularly if we can have more than 8
	move to finance section?
	this is a great idea likely to lead to real steel being installed.
	Important energy efficiency idea. Should it be swithced to another section so that it includes residential OBF for home systems - better insulation, etc?
A - On-Bill Financing for Small Business Energy Efficiency Projects	5
C - "Clean-Tech" Tax Incentives	
	I don't see how state will fund this
	This discussion raises issues that are addressed by carbon trust.
	similar to feebates
	Aggregate with other incentive, feebate items
C - "Clean-Tech" Tax Incentives	4
D - Industry/Government Partnerships to Reduce Industrial Energy Intensity	
	good to include
D - Industry/Government Partnerships to Reduce Industrial Energy Intensity	1
E - A Revolving Fund for Technology Demonstration Projects	This could be grouped with the other major recommendation in finance sector to support innovation and commercialization.
	Is this distinct from other sections of our report? If not we should combine several related ideas into one.
	Incorporate into innovation/commercialization discussion under finance sector.
	include in finance sector
	Seems this aggregates with the Carbon Trust concept?
	This can be combined with California Carbon Trust.
	I wouldn't call it a revolving fund because the likelihood of having the fund replenished by royalties is quite small. Call it a fund, and just add that

	successful projects would pay royalties back into the fund.
E - A Revolving Fund for Technology Demonstration Projects	7
G - Flexible Working Hours	
	While this is a good suggested change to labor laws, I would only want to include this in ETAAC if a specific company's implementation was linked to verifiable reductions in GHG
	incorporate in telecommuting option.
	coordinate with transport sector write-up
	I understand the logic, although I'm worried about the political blowback.
	good to include in a more aggregated list
G - Flexible Working Hours	5
H - Rebates for Load Reduction	
	Does this aggregate with broader Feebate, tax incentive discussion?
	The text should describe how this program fits in with and should be coordinated with existing programs such as energy efficiency and demand response programs.
H - Rebates for Load Reduction	2
I - Improve Policies for Combined Heat and Power	
	Seems inconsistent with emphasis on not picking technology winners or losers. I'm open to hearing the rationale for this.
	aggregate
	Add in text: 1) Regarding first bullet, loading order, add: If the state is to recognize CHP in the loading order, it should create a new category for CHP. Eligible CHP projects should also meet the CPUC's 3-prong test regarding fuel-switching. 2) Regarding bullet 2, departing load charges, add: California legislature and the CPUC have determined that CHPs should not be exempt from certain fees (such as departing load charges) that are incurred on their behalf and that would otherwise be borne by other California ratepayers. If the state creates a viable carbon market, the question of additional subsidy may go away, as many more CHP projects can capitalize on the carbon value to improve project economics without ratepayer subsidy. 3) Regarding bullet 4, add: Only CHP or Self-generation that emit less CO2 than combined cycle gas turbine should be considered for SGIP incentives.
I - Improve Policies for Combined Heat and Power	3
J - Waste Reduction at the Source	
	Seems like a good idea, but recommendation itself could be more specific.
	Helpful but this seems remote from GHG reduction goal. I think we need to be focused on a few things that can really change the game, as opposed to

	hitting everything.
J - Waste Reduction at the Source	2
K - Waste Recycling	
	We should mention benefits of efficiency and recycling, and that need to reduce GHG emissions reinforces this, but this should not be central to our report.
K - Waste Recycling	1
L - Waste Conversion Evaluation	
	some confusing typos, errors, and extra words in the solutions section
	This should incorporate the recycling and was reduction points made elsewhere. Could we combine this with the agriculture waste discussion to make it more significant?
L - Waste Conversion Evaluation	2
M - Landfills Regulation and Technologies	
	recommendation should be more specific - what does it mean to "revisit regulatory requirements?"
M - Landfills Regulation and Technologies	1
N - Building Efficiency Programs and Incentives	
	Combine with broader Land Use section?
	With some really agressive targets and adding residential, this could be a game changer. What about making R-20 insulation mandatory in low- and moderate-income housing? I'll flesh that out a bit and send something in.
N - Building Efficiency Programs and Incentives	2
O - Combustion Devices: Energy Efficiency	
O - Combustion Devices: Energy Efficiency	0
A - Carbon Credit and Valuation for Early Action	This recommendation could be referred to or linked to the theme of govt procurement and it could be linked to the feebate recommendation.
	The powerful central concepts of economics are not reflected on sufficiently well and thus the report ends up being somewhat too-technology focused. A more effective report would contain a better balance of the two. There seem to be many ideas in the report that are not actually sector-specific and therefore may be more general and more important. The crucial role that will be played by greenhouse gas (GHG) regulations in placing an effective price on GHG emissions (through a combination of regulatory and incentive-based approaches) in stimulating innovation is not acknowledged in the report. This suggests some minor restructuring. One good place to start is by changing the title of the study: Advancing innovation in California to fight global warming and strengthen the economy Perhaps the most important economic issue for ETAAC is the need for innovation-inducing policies in

	addition to policies that will reduce GHG emissions. The general reason is that the real world economy has many market failures so a ?first best? solution that assumes perfect markets, perfect information, no transaction costs, no other externalities etc. is inadequate by itself. Identifying these market failures and the ways to overcome them would be an important addition to the report. Key market failures include research and development spillovers, learning by doing spillovers, risk aversion, differences between private and social discount rates (e.g. myopia), and market power. A discussion of these issues should be added to the report.
	incorporated in carbon trust and/or early action incentives comment on MAC
	this should be our #1 priority.
	The general category of "Policy Game Changers" should be in the Top 8 The individual break-out suggestions would be aggregated within it. All suggestions within the category have merit - no basis for singling out one over another
A - Carbon Credit and Valuation for Early Action	5
B - Unifying Standards for Climate-Related Programs	
	30) Page 94. Unifying Standards for Climate-Related Programs Because various parts of the economy are very different from another, a set of sectoral policies that are also different are needed, in our view. Energy efficiency in homes and rental properties is one example, as is the low carbon fuel standard. This proposal seems to be aimed at eliminating these differences, but is vague. What would such a unifying standard look like? One answer might be cost-effectiveness ? that all climate-related programs should have similar costs per ton of GHGs emitted. However, this approach would miss the point entirely ? that there are non-price differences among different parts of the California economy that mean it is desirable from a social perspective to pursue programs with different cost effectiveness values. This is described for the low carbon fuel standard in the two UC reports (Vol. 1 pp. 22-25 and Vol. 2 pp. 19-27). We suggest either clarifying or dropping this recommendation. If it is retained, a statement that such standards are not designed to weaken the states climate goals are needed.
	I think this approach will ultimately help drive a technology-neutral approach to GHG reduction.
	This theme is touched on in other sections of the draft. Put together in a cross-cutting section? Or combine?
	Similar Comment Policy Game Changers is a Top 8 category, with individual suggestions listed within All have merit - no basis for singling out one over another
B - Unifying Standards for Climate-Related Programs	4
C - Competitive Renewable Energy Zones	We need to stress the urgent need to aggressively finance the building of transmission lines.
	Can we also consider including farmland in the Central Valley that has been damaged by excessive salt/selenium build up?
	Why time frame only to 2012? Why not to 2020?
	Similar Comment Policy Game Changers is a Top 8 category, with individual suggestions listed within All have merit - no basis for singling out

	one over another
C - Competitive Renewable Energy Zones	4
D - Support Critical Innovations for Future GHG Abatement	This recommendation has been more effectively handled in the finance sector and should be removed/deleted here.
	Incorporate into innovation and commercialization discussion in finance sector
	this is our core goal for the report. not sure it's a separate recommendation
	"The technologies needed to support GHG reductions beyond 2020 do not yet exist." I think some existing or near-commercial technologies could lead to deep reductions beyond 2020.
	Similar Comment Policy Game Changers is a Top 8 category, with individual suggestions listed within All have merit - no basis for singling out one over another
	Move to Finance sector.
D - Support Critical Innovations for Future GHG Abatement	6
F - Renewable Energy	
	Need to define problem and solution more specifically.
	Timeframe should be extended to 2020
	Similar to Policy Game Changers Comment Technology Game Changers is a Top 8 category, with individual suggestions listed within All have merit - no basis for singling out one over another
F - Renewable Energy	3
E - Aggressive Energy Efficiency Program Implementation with LEDs	
	Moving in the right direction but does not seem to be technology neutral.
	Timeframe should be extended to 2020
	Similar Comment Technology Game Changers is a Top 8 category, with individual suggestions listed within All have merit - no basis for singling out one over another
E - Aggressive Energy Efficiency Program Implementation with LEDs	3
G - Energy Storage as an Enabling Technology	We believe strongly that this enabling technology should be elevated to a major recommendation.
	Good discussion. This should incorporate the plug-in recommendations into one consolidated recommendation.
	Timeframe should be extended to 2020
	same
G - Energy Storage as an Enabling Technology	4
H - Plug-In Electric Vehicle	

as Storage	
	See Item 56
	move to transportation chapter
	same
H - Plug-In Electric Vehicle as Storage	3
I - Smart Grid as Enabling Technology	
	Include in discussion of Item 56
	Extend timeframe to 2020
	Very important to get price signals to consumers, allow better use of the grid.
	same
I - Smart Grid as Enabling Technology	4
J - Carbon Capture and Sequestering Strategy	Particular attention needs to be placed on the carbon liability issues.
	The summary table in this section is an excellent addition. Recommend all sectors include something like this.
	This will controversial, however, a great deal of research needs to be done. W/O CCS we will face a serious problem of what to do w/ CO2 from fossil fuels, which will continue to be with us.
	Refer to Forest and Ag sector for additional specifics
J - Carbon Capture and Sequestering Strategy	4
A - Manure to Energy Facilities	
	Can adoption be funded by the carbon trust?
	The overarching topic would be a combined "Agricultural and Forest Global Warming Solutions" - as one of top 8 -then separate out text into Ag and Forest suggestions -individual suggestions from Ag and Forest may not rank as Top 8, but the broad category should
	PG&E is concerned about the potential rate impact on customers. We believes that electricity produced from dairy digesters should be purchased/sold at MPR (market price referent). In addition, the existing tariff should remain the same. Also, the text says that the owner/generator of an electricity-producing bio-gas distributed generation system on a farm be permitted to retain ownership rights to the renewable energy credits for later sale (p.111) --is this referring to the GHG attribute associated with converting methane to carbon? Please clarify.
A - Manure to Energy Facilities	3
B - Enteric Fermentation	
B - Enteric Fermentation	0
C - Agricultural Biomass Utilization	

	Can this be incorporated as one example into the innovation and commercialization discussion in the finance sector?
	The text asserts that ability for biomass power generators to sell power is not certain, as the utilities have not always been willing to buy power from third party renewable generators, and that ownership of RECS is also subject to different interpretation. This information is years out of date, if it was accurate at all. All three IOUs have made extra efforts to sign bio-energy contracts in the last several years. PG&E has signed 11 such contracts since 2002. SCE has created 3 special standard contracts to facilitate bio-energy purchases. The REC and GHG credit issues have been the subject of multiple CPUC proceedings and are fully resolved. Thus, the statements in the draft report should be revised.
C - Agricultural Biomass Utilization	2
D - Dedicated Bio-Fuels Crops	
	A very good discussion here.
D - Dedicated Bio-Fuels Crops	1
E - Soil Carbon and Sequestration	
	I think the conservation tillage is the big deal and it should be connected to improved/reduced water utilization. This should be captured in the title.
	include in one recommendation dealing with carbon sequestration
E - Soil Carbon and Sequestration	2
F - Riparian Restoration and Farmscape Sequestration	
	Multiple goals and tradeoffs: In various parts of the report, different opinions about the relative priorities for multiple goals are offered, and different views about potential tradeoffs are expressed. This is an important issue that deserves more clear discussion among ETAAC members. Our view is that we must be clear about this and that we should reject choices that compromise the objectives of AB32 ? to fight global warming ? in order to achieve other public policy objectives. At the same time, of course the state should reject choices that would violate other statutes or seriously frustrate other public policy goals. That is, we should recommend that the state seek to create and support opportunities to achieve additional goals beyond steps that will directly or indirectly lower the effects of global warming on the state. (Indirect steps would include efforts to stimulate innovation that will enable cost-effective GHG emission reductions in the future.) But we should recommend against choices that divert resources away from this goal and against GHG control policies or projects that worsen water pollution or other public policy goals. For instance, imagine a competitive grants program with two projects. They both have the same price, but the first lowers GHGs slightly more than the second, while the second yields small air pollution benefits. They differ in no other way. In our view, the first project should be chosen based on a simple rule that AB32 requires greater GHG emission reductions be chosen. (Of course, if the two choices offered the same GHG emission reductions, the second project should be chosen because of the air pollution co-benefit.) Any other rule would begin to require highly

	subjective judgments about the tradeoffs between GHG emission reductions versus air pollution improvements. Now imagine a third project that is identical to the first two, except that it has even more GHG emission reductions but worsens air pollution. This third project should be rejected. This approach is consistent with the text of AB32, which instructs (in section 38570) that that creases in toxic air contaminants or criteria air pollutants due to a market-based compliance mechanism should be prevented, but that emissions should otherwise only be ?considered?. More generally, section 38592 (b) states that, ?Nothing in this division shall relieve any person, entity, or public agency of compliance with other applicable federal, state, or local laws or regulations, including state air and water quality requirements, and other requirements for protecting public health or the environment.? Of course, the real world is not quite this simple. Government decisions must be guided by political compromise as well as strict rationality. In addition, in some cases there may be GHG-reduction choices that worsen air pollution or otherwise significantly frustrate public policy objectives. (See page 111 on methane digesters for an apparent suggestion that air pollution regulations be eased for methane digesters in order to enable GHG emission reductions.) Therefore, there may be a need for tradeoffs among multiple goals. It would be foolish to pretend that such tradeoffs would not occur ? if ETAAC would like to allow such tradeoffs, it should offer explicit guidance about how to do so. For instance, ETAAC might recommend a minimum cost-effectiveness for co-benefits that would be considered acceptable tradeoffs. If ETAAC recommends that tradeoffs among different public policy objectives be allowed for GHG policy, then it should also recommend a balanced, reciprocal policy?for instance, air pollution regulations and decisions must include GHG emission reductions in the decision process, just as GHG policy decisions would have to account for air pollution. Otherwise, an unbalanced and biased set of regulatory decisions would result. And if ETAAC recommends that such tradeoffs be made for air pollution, then all public policy objectives should be includes as well, including but not limited to: water pollution, biodiversity, environmental justice, early childhood nutrition, literacy, smoking cessation, traffic safety, and so forth. And, similarly, policies to achieve these public policy goals should be made with tradeoffs in terms of GHG emission reductions in mind. Otherwise, there will be a bias against climate change goals policy as less important than these other goals, which is not true. It is important to not over-state co-benefits by ignoring the regulatory and economic context of the co-benefits. In particular, pollutants that are controlled with a cap-and-trade system (such as in California?s RELCAIM or the federal Acid Rain programs) emissions are determined by the number of available allowances. If some sources reduce emissions as a co-benefit to a GHG emission reduction, this makes more emission allowances available for other sources. Of course, if the emission allowances associated with the change were also retired, the co-benefit would be retained. However, because emission allowances have monetary values, such an approach would not be free and an implicit, inescapable tradeoff would be made.
F - Riparian Restoration and Farmscape Sequestration	1
G - Fertilizer Use and Water Management Efficiency	
G - Fertilizer Use and Water Management Efficiency	0
A - Link Forest Fuels	

Management and Biomass Utilization: Green Biofuels Index	
	reference transportation recommendation that deals with biofuels labeling (Z)
	The overarching topic would be a combined "Agricultural and Forest Global Warming Solutions" - as one of top 8 -then separate out text into Ag and Forest suggestions Title is slightly revised for this Section to: "Link Forest Fuels Management and Biomass Utilization: Green Biofuels Index,Incentives and Technology"
	The text references a price increase for biopower but does not include details on what that means. Please clarify.
A - Link Forest Fuels Management and Biomass Utilization: Green Biofuels Index	3
B - Reforestation of Natural Forest Areas	
	To the extent this discusses additional financial incentives to reforest, this should be mentioned as one of the projects that could be financed by the carbon trust.
	Title and text to be amended: Reforestation and Forest Management for Enhanced Carbon Storage
B - Reforestation of Natural Forest Areas	2
C - Urban Forests for Climate Benefits	
	n/a
C - Urban Forests for Climate Benefits	1
D - Endorse "California-Grown" Climate Solutions	
	idea is incomplete. Related to Finance sector recommendation on encouraging in-state cleantech manufacturing.
	Incorporate in discussion of job creation and manufacturing part in finance section.
	Aggregate with Buy California section In the writeup within this sector, restore deleted material re: wood products imports, California forest industry competitive disadvantage
D - Endorse "California-Grown" Climate Solutions	3